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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/851,868	05/09/2001	Stanley W. Stephenson	82633RLO	4959	
7	590 12/09/2005		EXAMINER		
Thomas H. Close			DHARIA, PRABODH M		
Patent Legal St Eastman kodak			ART UNIT	PAPER NUMBER	
343 State Street			2673		
Rochester, NY 14650-2201			DATE MAILED: 12/09/200:	DATE MAILED: 12/09/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
	09/851,868	STEPHENSON ET AL.			
Office Action Summary	Examiner	Art Unit			
	Prabodh M. Dharia	2673			
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet with	the correspondence address			
A SHORTENED STATUTORY PERIOD FOR REP WHICHEVER IS LONGER, FROM THE MAILING  - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory perioder a failure to reply within the set or extended period for reply will, by state Any reply received by the Office later than three months after the maine earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICA 1.136(a). In no event, however, may a reply of will apply and will expire SIX (6) MONTHS ute, cause the application to become ABANI	TION.  be timely filed  from the mailing date of this communication  ONED (35 U.S.C. § 133).			
Status					
1) Responsive to communication(s) filed on 10	<i>May 2005</i> .				
2a) This action is <b>FINAL</b> . 2b)⊠ Th	nis action is non-final.				
3) Since this application is in condition for allow	ance except for formal matters	, prosecution as to the merits is	3		
closed in accordance with the practice under	Ex parte Quayle, 1935 C.D. 1	1, 453 O.G. 213.			
Disposition of Claims					
4)⊠ Claim(s) <u>5-11</u> is/are pending in the application	on.				
4a) Of the above claim(s) 1-4 is/are withdraw	n from consideration.				
5) Claim(s) is/are allowed.					
6)⊠ Claim(s) <u>5-11</u> is/are rejected.					
7) Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and	or election requirement.				
Application Papers					
9) The specification is objected to by the Examin	ner.				
10)⊠ The drawing(s) filed on 09 May 2001 is/are:	a)⊠ accepted or b)⊡ objected	I to by the Examiner.			
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the corre	ection is required if the drawing(s)	s objected to. See 37 CFR 1.121(c	d).		
11)☐ The oath or declaration is objected to by the l	Examiner. Note the attached O	ffice Action or form PTO-152.			
Priority under 35 U.S.C. § 119					
12) Acknowledgment is made of a claim for foreign	gn priority under 35 U.S.C. § 11	9(a)-(d) or (f).			
a) All b) Some * c) None of:					
1. Certified copies of the priority docume		ination No			
<ul><li>2. Certified copies of the priority docume</li><li>3. Copies of the certified copies of the pr</li></ul>		<del></del>			
application from the International Bure	•	Leived III triis National Stage			
* See the attached detailed Office action for a lis	, ,,	eived.			
	F				
Attachment(s)					
1) Notice of References Cited (PTO-892)	4) Interview Sum	mary (PTO-413)			
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/M	ail Date			
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/0 Paper No(s)/Mail Date <u>05-09-01</u> .	8) 5) Notice of Inform 6) Other:	mal Patent Application (PTO-152)			
U.S. Patent and Trademark Office PTOL-326 (Rev. 7-05)  Office	Action Summary	Part of Paper No./Mail Date 120320	 05		

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1. Status: Receipt is acknowledged of papers submitted on 05-10-2005 under request for reconsideration has been placed of record in the file. Claims 5-11 are pending in this action.

Claims 1-4 have been cancelled.

## Response to Amendment

2. The amendments filed on 05-10-2005, is sufficient to overcome the objection made to claim 5 under 35 US 112. The objection is withdrawn.

## Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,118,439 to Ho et al in view of US Patent 6,268,840 B1 to Huang.

In reference to claims 5 and 11, Ho illustrates in figures 4 and 5, an addressing structure having rows and columns of conductors arranged so that when a column and a row overlap, they define a selectable pixel or segment to be viewable or non-viewable. Ho teaches a switching mechanism (items 160 and 170; column 4, lines 32-38) operatively coupled to the addressing structure, the switching structure being operative to output either a first voltage and a second voltage. Ho teaches at least one column voltage divider for each column and at least one row

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voltage divider for each row within the addressing structure, the row and column voltage dividers being responsive to the. first and second fixed voltages to provide one of two selectable voltages for each column and one of two selectable voltages for each row (column 3, lines 1-4, "large" and "low" current voltages). Ho teaches a selection circuit operatively coupled to the switching mechanism that selects one of either the first or second voltages in accordance with a predetermined scheme (column 7, lines 61- 67) wherein the column voltage divider provides one of two voltages for each column and the row voltage divider provides one of two voltages for each row so that a particular pixel or segment (items 232, 233, 236, 222, 224, 226).

The difference between Ho's invention and the applicant's invention lies in the particular type of LCD display the driving circuit is using. Ho teaches a voltage driving circuit for a LCD display but never specifically establishes the exact type of LCD. However, Huang teaches Cholesteric liquid crystal (Col. 1, Lines 17,18), unipolar (Col. 2, Lines 44-47) bistable display (Col. 1, Lines 17-20), with row and column addressing controlled by switching (Col. 2, Lines 65-68, Lines 44-47, Col. 3, Lines 1-25, Col. 9, Line 55 to Col. 10, Line 2) with voltage divider for column and rows (Abstract, Col. 2, Lines 34-43, Col. 3, Lines 1-25, Col. 7, Lines 52-64, Col. 8, Line 14-20).

Thus, it would have been obvious to a person of ordinary skill in the art to modify Ho's invention with Huang teaching of Cholesteric liquid crystal (Col. 1, Lines 17,18), unipolar (Col. 2, Lines 44-47) bistable display (Col. 1, Lines 17-20), with row and column addressing controlled by switching (Col. 2, Lines 65-68, Lines 44-47, Col. 3, Lines 1-25, Col. 9, Line 55 to Col. 10, Line 2) with voltage divider for column and rows (Abstract, Col. 2, Lines 34-43, Col. 3, Lines 1-25, Col. 7, Lines 52-64, Col. 8, Line 14-20) to resemble applicant's invention. The

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motivation for combining these inventions would have been to have a bistable cholesteric liquid crystal

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display using a pipeline scheme and unipolar waveforms to provide high-speed updating of the visual

display.

In reference to claim 6, it is apparent from the Ho's abstract and figure 4 (item 100) that

the Voltage driving means is a single chip.

In reference to claim 7, Ho's invention uses a single voltage source Vcc (figure 7).

In reference to claim 8, Ho's invention uses a ground voltage (figure 7).

In reference to claim 9, it can be seen from figure 7 of Ho that the voltage divider uses

resistors.

In reference to claim 10, Ho teaches a circuit responsive to an input signal for causing the

selection of appropriate diodes to provide the appropriate voltage at a selected pixel or segment

of the display (column 4; lines 7-13).

Response to Arguments

5. Applicant's arguments with respect to claims 5-11 have been considered but are moot in

view of the new ground(s) of rejection.

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## Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ynag; Deng-Ke et al. (US 6154190A) Dynamic drive method and apparatus for bi-stable liquid crystal display.

- 7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.
- 8. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
- 9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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December 3, 2005

VIJAY SHANKAR PRIMARY EXAMINER

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